

REMARKS

Claims 1, 2, and 6 have been amended to clarify that the CAD files represent two-dimensional views of an object and that the claimed “working space” is also in two dimensions. These amendments are explicitly supported in the specification at page 2, lines 9-13, and at page 8, line 24, to page 9, line 2. As noted therein, CAD drawings files are presented on a viewing screen or on printed documents in two dimensions, typically as orthographic projections. The figures of the present application are consistent with this definition.

Upon entry of the above amendments, claims 1-6 will remain in the application.

Claim Rejections – 35 U.S.C. § 101

Claims 1-6 stand rejected under 35 U.S.C. §101 as allegedly being directed to non-statutory subject matter. In particular, the Examiner alleges that the methods of claims 1-6 “cover virtually any form of computer aided design object relating to an entity” and, as such, “preempt” all forms of data. The rejection makes no sense to Applicant. Claim 1 recites a method of spatially coordinating CAD files representing two-dimensional view of an object. It is far from clear from the Examiner’s rejection how such a method can possibly “preempt” data. Moreover, Applicant is not aware of a “data preemption” doctrine. If the Examiner intends to recite that the claims are directed to nonpatentable descriptive material, then he is requested to articulate his rejection accordingly. In any case, the Examiner’s intent in making this rejection is far from clear.

As noted by the Examiner, one may not patent a process that comprises every “substantial practical application” of an abstract idea, because such a patent “in practical effect would be a patent on the [abstract idea] itself.” *Benson*, 409 U.S. at 71-72, 175 USPQ at 676; *cf. Diehr*, 450 U.S. at 187, 209 USPQ at 8 (stressing that the patent applicants in that case did “not seek to pre-empt the use of [an] equation,” but instead sought only to “foreclose from others the use of that equation in conjunction with all of the other steps in their claimed process”). However, as set forth in M.P.E.P. 2106.IV.C.3, “[i]f USPTO personnel determine that the claimed invention preempts a 35 U.S.C. 101 judicial exception, *they must identify the abstraction, law of nature, or natural phenomenon and explain why the claim covers every substantial practical application thereof*” (emphasis added). *This the Examiner has not done*

here. Applicant submits that the claimed invention clearly does not preempt an abstract idea or “all forms of data” as the Examiner alleges but instead relates to a method that is totally independent of the underlying object or any data represented by the object. What is the “abstract idea” that is preempted? The claimed method provides a methodology for coordinating inherently two-dimensional views of an object in three-dimensional space so that, for example, the different two-dimensional views may be stored and retrieved with respect to the real world coordinates of the underlying object. How does such a method preempt “all forms of data?” The claimed method has the practical utility of locating files spatially so that one may accurately design and manipulate the object represented in the drawings files, irrespective of whether the files represent elevation, section, or detail files of the CAD files. Such a method is clearly a statutory method under the USPTO guidelines regarding patentable subject matter.

Withdrawal of the rejection of claims 1-6 as being directed to nonstatutory subject matter is requested. If the Examiner intends to maintain this rejection, he is strongly encouraged to articulate the “preempted abstract idea” and/or to contact Applicant’s undersigned representative to discuss this issue to best facilitate prompt resolution of any outstanding issues under 35 U.S.C. §101.

Claim Rejections – 35 U.S.C. §103(a)

Claims 1-6 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable as obvious over Carver et al. (US 4,945,488) in view of Redmond (US 5,255,211). This rejection is respectfully traversed.

Claim 1 recited a method of spatially coordinating Computer Aided Design (CAD) files representing two-dimensional views of an object. As noted in the specification at page 2, lines 9-13, and as is well known to those skilled in the art, CAD drawings, by their nature, represent three-dimensional objects in two dimensional “working space” for display and manipulation. Thus, unlike computer graphics systems where objects may be stored and manipulated in three dimensions and thus readily referenced to a three-dimensional coordinate system, CAD drawings representing an object comprise a collection of two-dimensional cross-sectional (*e.g.* orthographic) views of the underlying object. This two-dimensional nature of CAD drawings makes it difficult to coordinate different types of

drawings files such as a plan file with an elevation file in three-dimensional space, for example.

The claimed method addresses such problems in the CAD art by spatially coordinating the two-dimensional CAD drawings by:

creating a *master dimensional plan file* to which said CAD files are *spatially located in two-dimensional working space* as reference files;

linking at least one of elevation, section, and detail files of said CAD files to said master plan file with the coordinates of said master dimensional plan file in said two-dimensional working space for display;

linking concentric parallel shapes corresponding to respective z-axis coordinates of the object about an x-axis and y-axis representation of one z plan of said object so as to identify all points on all elevations intersecting the z-axis coordinate of the respective shape, whereby each concentric parallel shape defines a plane in the z-axis dimension for the object in said two-dimensional working space for display and allows for the illustration of the passage of said plane through all elevation, section, and detail files referenced to said master dimensional plan file including said z-axis dimension;

linking each selected elevation, section, and detail of said CAD files to the corresponding x, y and z coordinate positions of said master dimensional plan file in two-dimensional working space; and

displaying each said selected elevation, section, and detail files of said CAD files at the corresponding x, y, and z coordinate positions of said master dimensional plan in a display plane of said two-dimensional working space.

The above characteristic features of the method of the invention, particularly those identified in italics, are not shown or described by Carver et al. or Redmond.

In rejecting claim 1 over Carver et al., the Examiner alleged that Carver et al. disclosed all features of claim 1 except for the “master dimensional plan file” but alleged that such a feature is taught by Redmond and would have been incorporated into the Carver et al. system by one skilled in the art. The Examiner has provided no support for such allegations. Also, the Examiner’s interpretations of the teachings of Carver et al. and Redmond are clearly lacking.

Carver et al. disclose a method of manufacturing aircraft including constructing a definition of the aircraft in computer memory and forming and assembling component parts using tools that are independent of one another. Applicant can find no reference by Carver et al. to the spatial coordination of two-dimensional CAD drawings of an object or “linking concentric parallel shapes corresponding to respective z-axis coordinates of the object about an x-axis and y-axis representation of one z plan of said object so as to identify all points on all elevations intersecting the z-axis coordinate of the respective shape” as claimed. On the contrary, Carver et al. create a three-dimensional model is generated as a database in a three-dimensional graphics system (column 9, lines 45-50). Carver et al. thus represent the parts in three-dimensions in the graphics system. Since Carver et al. represent the parts in three-dimensional space, there is no need to spatially coordinate any two-dimensional representations of the stored images by “linking concentric parallel shapes...” as claimed. The teachings of Carver et al. thus have no direct relevance to the claimed invention.

In any case, the Examiner has provided no explicit reference to where any of the claimed features in claim 1 are taught by Carver et al. Applicant submits that Carver et al. clearly do not disclose the claimed master dimensional plan file or the claimed linking and displaying steps. The Examiner has provided no indication of the relevance of the teachings of Carver et al., and Applicant can find none.

Redmond is cited for the teaching of the claimed “master dimensional plan file” but, again, Applicant can find no relevant teaching in Redmond. The Examiner alleges that Redmond’s “data file management system” corresponds to the claimed “master dimensional plan file.” This is clearly error. Redmond provides no teaching of a file to which CAD files are “spatially located in two-dimensional working space” as claimed. Again, the Examiner has not pointed to any such teachings, and Applicant cannot find any. Based on Applicant’s reading, Redmond instead describes a point in space using a “data file” of mathematical Cartesian elements (x,y,z). Redmond does not teach “creating a master dimensional plan file to which said CAD files are spatially located in two-dimensional working space as reference files” as claimed.

The Examiner is reminded of the requirements for establishing *prima facie* obviousness. As set forth in M.P.E.P. §§2142-2143.03, in order to establish a *prima facie* case of obviousness, patent examiners are required to establish three criteria: (1) there must

be some articulated reasoning with some rational underpinning to support a legal conclusion of obviousness; (2) there must be a reasonable expectation of success and at least some degree of predictability; and (3) the prior art reference, or combination of references, must teach or suggest *all* the claim limitations. The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. To make a proper obviousness determination, the examiner must “step backward in time and into the shoes worn by the hypothetical ‘person of ordinary skill in the art’ when the invention was unknown and just before it was made.” In view of the available factual information, the examiner must make a determination as to whether the claimed invention “as a whole” would have been obvious at that time to a person of ordinary skill in the art. Importantly, a rejection based on these criteria must be based on what is taught in the prior art, not the applicant’s disclosure. The applicant’s disclosure may not be used as a blueprint from which to construct an obviousness rejection.

In the present case, the Examiner has not indicated where *any* of the claimed steps are taught in the prior art, has provided *no* clear articulation with rational underpinning to support a conclusion of obviousness, and has not established the predictability of the claimed invention from the teachings of the prior art. Generally referencing the summary of the invention of Carver et al. clearly does not satisfy the Examiner’s burden of establishing *prima facie* obviousness. “The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.” M.P.E.P. §2143. The rejection of claims 1-6 by the Examiner clearly lacks such specificity and cannot support a finding of *prima facie* obviousness.

Accordingly, the Examiner has not met his burden of establishing *prima facie* obviousness with respect to claim 1. Moreover, *the Examiner has not even attempted to apply the teachings of the cited references to claims 2-6.* Clearly, the Examiner has not established *prima facie* obviousness with respect to claims 2-6. Withdrawal of the rejection of claims 1-6 over Carver et al. and Redmond is thus appropriate and is respectfully solicited.

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Conclusions

For at least the reasons set forth above, the Examiner's rejections of claims 1-6 are inappropriate and the withdrawal of all rejections is respectfully solicited. A Notice of Allowability is requested.

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